

REMARKS

In response to a Final Office Action dated September 24, 2003, the Applicant is filing a Request for Continued Examination pursuant to 37 C.F.R. § 1.114. At the time of the Final Office Action, claims 35-51 were pending. In this Preliminary Amendment, claims 37 and 44 are canceled. Claims 35, 38-40, 42, 43, 45-49 and 51 are amended, and new claims 52-54 are added. Accordingly, claims 35, 36, 38-43 and 45-54 are currently pending.

In the Final Office Action, claims 35-39, 42-46, 49 and 50 were rejected under 35 U.S.C. § 103(a) as being obvious based on U.S. Patent No. 5,691,741 to Kerigan ("the Kerigan reference") in view of U.S. Patent No. 4,386,345 to Narveson ("the Narveson reference"). Claims 41 and 48 were rejected under 35 U.S.C. § 103(a) as being obvious based on Kerigan in view of Narveson and further in view of U.S. Patent No. 6,243,059 to Greene ("the Greene reference"). Finally, claims 40, 47 and 51 were rejected under 35 U.S.C. § 103(a) based on Kerigan in view of Narveson and further in view of U.S. Patent No. 5,479,186 to McManus et al. ("the McManus reference") and U.S. Patent No. 4,379,292 to Minato ("the Minato reference"). These rejections are addressed in detail below.

Rejections under 35 U.S.C. § 103

As set forth above, the Examiner rejected all claims based on a combination of Kerigan and Narveson. The rejection of claims 40, 41, 47, 48 and 51 were based on additional references, as well. Specifically, the Examiner stated:

2. Claims 35-39, 42-46, 49 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kerigan et al., ("Kerigan"), US 5,691,741 in view of Narveson et al., ("Narveson"), US 4,386,345.

With respect to claims 35 and 49 Kerigan discloses a color display system (FIG. 1) comprising a color display device

130 that stores display identification data including information fully describing the display device and allowing the computer system to configure display adapter so as to provide the best possible signal match between adapter and the display device, color characteristics including (column 6, lines 5-14).

With regard to claim 42 Kerigan additionally teaches a memory 300 for storing the display identification data.

Kerigan further teaches that computer system is adapted to load identification data from the color display device and create a video signal based on that data (FIG. 3; column 6, lines 18-32; column 8, lines 46-50).

Kerigan does not specify explicitly that the identification data, which comprises among other parameters data for providing the best possible signal match between the adapter and the display device color signals R,G and B, is color correction data corresponding to an input-output color characteristic associated with the color display device.

Narveson teaches a color cathode ray tube having a memory, "CRT personality PROM", containing the color/brightness characteristics of this particular CRT, input-output transfer characteristic included, which have been prepared during the CRT assembly (see abstract, col. 4, lines 3-38; col. 4, line 57 – col. 5, line 23).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the teaching of Narveson in the display signals matching device and method of Kerigan, i.e., to store the identification data associated with the display into the memory of the display, as taught by both Kerigan and Narveson, the data being color correction data corresponding to the input-output color characteristic as taught by Narveson, because it would allow to maintain the best possible RGB signal match required by Kerigan and also to maintain a given color hue or chromaticity over the entire brightness range of the display (Narveson; column 4, lines 39-53).

As to claims 36, 43 and 50, the computer system is adapted to send or deliver the video signal to the color display device (Kerigan; FIGS. 1-3 show delivery of color video signals from the adapter 70 located in the computer system to the color display device 130).

As to claims 37-39 and 44-46, Narveson teaches storing two methods for storing display correction data into a memory, look-up tables for color correction data (column 5, lines 24-56) and polynomial coefficients for adjusting an electron beam

focus in accordance with the reference brightness in the tube's personality PROM (column 9, lines 24-32).

It would have been obvious to one of ordinary skill in the art at the time when the invention was made to use both methods or any one of them to represent the color correction data, because it would be readily recognized by those ordinary skilled in the art that both methods are suitable for the task and will provide the adequate correction without bringing about an unexpected result, and thus these methods simply represent an alternative choice.

3. Claims 41 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kerigan in view of Narveson and further in view of Greene et al., ("Greene"), US 6,243,059.

Kerigan discloses a color display system comprising a color display device that stores display identification data and Narveson teaches a color cathode ray tube having a memory, "CRT personality PROM", containing the color/brightness characteristics of this particular CRT, input-output transfer characteristic included.

None of the above teaches using color correction data in the VGA or an LCD flat type of the display.

Greene teaches a color correction method for electronic displays including flat panel displays, such as LCD (53'), and video graphic array type VGA (FIG. 8, column 4, lines 8-44; column 16, lines 29-42), wherein equation coefficients are stored in a memory (42') and used for calculating corrected color signals being outputting the signals to a display controller (52).

It would have been obvious to one of ordinary skill in the art at the time of the invention that the method of providing color correction data to the computer system so that the computer system would be able to create the corrected video signals to be applied to the display, taught by Kerigan-Narveson combination, can be applied to the flat panel LCD display of Greene, because it would provide for correcting the color non-uniformities of the latter with any type of computer system, given that the correction data is provided in the display memory embedded with the display.

4. Claims 40, 47 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kerigan in view of Narveson and further in view of McManus and further in view of Minato (references of record).

Kerigan discloses a color display system comprising a color display device that stores display identification data and Narveson teaches a color cathode ray tube having a memory, "CRT personality PROM", containing the color/brightness characteristics of this particular CRT, input-output transfer characteristic included.

None of the above teaches that the plurality of coefficients can be utilized in a third order polynomial equation, which predicts the brightness of the first color within 0.3 foot-lamberts for the color display device.

McManus discloses a system for computing polynomial equation coefficients to represent an input-output color characteristic of a color display device. McManus does not disclose expressly that a third order polynomial equation is used for representation, which predicts the brightness to within 0.3 foot-Lamberts for each input signal. McManus rather teaches that acceptable curve fitting results are obtained when the degree of the polynomial is in order from 5 to 7.

Minato teaches a luminance characteristic curves for a color display that can be presented by a polynomial equations of a third order (see FIG. 1 and equation (19) in column 5, line 10.

It would have been obvious to one of ordinary skill in the art at the time of the invention that color brightness characteristic for each input signal can be presented by a plurality of polynomial coefficients as taught by McManus, which can be utilized in a third order polynomial equation as taught by Minato, and that this order can be arbitrarily picked up by a designer depending on required accuracy, 0.3 fL included. It should be obvious to those of ordinary skill in the art that chosen range of 0.3 fL simply represents an alternative design choice and as such cannot contain a patentable subject matter, because any other range, for example 0.2 fL or 0.4 fL would work, and the only difference between the

two would be in precision and quality of the correction, which would be set arbitrarily as a goal before implementation. It would be in ability of those who are of ordinary skill in the art to set and choose the prediction interval as required. As to the measure of the brightness, Narveson teaches gamma curves (FIGS. 3a and b) wherein the brightness is presented in foot-lamberts.

Office Action, Pages 2-6.

The Applicant respectfully traverses these rejections. The burden of establishing a *prima facie* case of obviousness falls on the Examiner. *Ex parte Wolters and Kuypers*, 214 U.S.P.Q. 735 (PTO Bd. App. 1979). Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention absent some teaching or suggestion supporting the combination. *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 732 F.2d 1572, 1577, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984). Accordingly, to establish a *prima facie* case, the Examiner must not only show that the combination includes *all* of the claimed elements, but also a convincing line of reason as to why one of ordinary skill in the art would have found the claimed invention to have been obvious in light of the teachings of the references. *Ex parte Clapp*, 227 U.S.P.Q. 972 (B.P.A.I. 1985). When prior art references require a selected combination to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight gained from the invention itself, i.e., something in the prior art as a whole must suggest the desirability, and thus the obviousness, of making the combination. *Uniroyal Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 5 U.S.P.Q.2d 1434 (Fed. Cir. 1988).

Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention absent some teachings or suggestion supporting the combination. *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 732 F.2d 1572, 1577, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984). One cannot use hindsight reconstruction to pick and

choose among isolated disclosures in the prior art to deprecate the claimed invention. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q. 2d 1596 (Fed. Cir. 1988).

In the present case, the combination of Kerigan and Narveson, which forms the basis of all claim rejections, cannot render the Applicant's claims obvious under Section 103 because that combination does not include all of the elements recited in the Applicant's claims. For example, independent claim 31 recites a color display system "that stores color correction data *in an unused portion in a standard memory associated therewith*, the color correction data comprising a plurality of coefficients representative of an equation that describes an input-output color characteristic associated with the color display device." (Emphasis added). Independent claim 42 is directed to a color display device that "that stores color correction data *in an unused portion in a standard memory associated therewith*, the color correction data comprising a plurality of coefficients representative of an equation that describes an input-output color characteristic of the color display device." (Emphasis added). Similarly, independent method claim 49 is directed to a system that includes a "color display device that stores color correction data *in an unused portion in a standard memory associated therewith*." (Emphasis added). Claim 49 recites the act of "retrieving the color correction data from the *unused portion in the standard memory associated with the color display device*." (Emphasis added).

Neither Kerigan nor Narveson disclose a display device that stores color correction data in unused space in an industry standard memory. This deficiency is not corrected by the addition of any of the other references cited by the Examiner. Accordingly, no combination cited by the Examiner can render any of the Applicant's claims obvious under Section 103. For at least these reasons, the Applicant respectfully requests withdrawal of the rejection of


claims 35, 36, 38-43 and 45-54 under Section 103 based on the combination of Kerigan and Narveson, either by themselves or in combination with other references.

Conclusion

In view of the Amendments and Remarks set forth above, the Applicant respectfully requests withdrawal of rejection of all of the Applicant's claims based on Kerigan and Narveson, and, in some cases, additional references. Furthermore, the Applicant asserts that an indication of the allowability of claims 35, 36, 38-43 and 45-54 is appropriate. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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